

REMARKS/ARGUMENTS

Claims 1-32 are pending in the application. Claims 1, 2, 3, 11, 12, 14, 23, 24, and 25 have been amended. Reconsideration is respectfully requested. Applicants submit that the pending claims 1-32 are patentable over the art of record and allowance is respectfully requested of claims 1-32.

Applicants' would like to thank Examiner Zhen for hold a telephone interview with their representative, Janaki K. Davda, on Monday, September 15, 2003, at 1:00 p.m. (EST). During the telephone interview, claim 1 and the Wagstaff patent were discussed. Agreement was not reached.

Applicants' representative understood Examiner Zhen as indicating, during the telephone interview, that he believed the point of novelty in Applicants' invention was in the merging of extents for a point-in-time copy operation. Applicants' would like to direct Examiner Zhen's attention to page 16, lines 21-25 of the Applicants' Specification, which indicates that the logic for rearranging tracks may apply to any type of command or operation involving ranges of tracks and is not limited to point-in-time copy operations on ranges of tracks.

In paragraph 1, the Office Action indicates that claims 3-5, 14-16, and 25-27 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims. Applicants would like to thank the Examiner for this indication of allowability. Claims 3, 14, and 25 have been rewritten in independent form including all of the limitations of the base claim and any intervening claims. Dependent claims 4-5, 15-16, and 26-27 depend from claims 3, 14, and 25, respectively. Therefore, Applicants submit that claims 3-5, 14-16, and 25-27 are now in condition for allowance.

In paragraph 2, the Office Action requests copies of certain documents cited in Applicants' Specification. Applicants are submitting a Supplemental IDS with this response and are providing copies of the requested documents.

In paragraph 3, claim 12 is objected to as referring to claim 1. Claim 12 has been amended to overcome the objection and place it in better form.

In paragraph 5, claims 1-2, 6-13, 17-24, and 28-32 are rejected under 35 U.S.C. 103(a) as being unpatentable over Haye (U.S. Patent No. 6,078,932) in view of Wagstaff (U.S. Patent No. 6,360,213).

Claim 1 describes building a list of parameters to include, wherein each input parameter comprises at least one extent. A plurality of input parameters are received, wherein each input parameter comprises at least one extent. It is determined whether a number of the input parameters exceeds a threshold number of parameters that are capable of being included in the command. Content of multiple input parameters are merged into at least one output parameter if the number of input parameters exceeds the threshold number, wherein the content of the input parameters is included in a number of output parameters that does not exceed the threshold. The output parameters are included with the command.

The Office Action cites the Haye patent at Col. 5, lines 23-33, as teaching that an input parameter comprises at least one extent. The Haye patent describes a data collection represented as a list of devices each containing a list of track extents. The Haye patent, however, does not teach or suggest receiving a plurality of input parameters, determining whether a number of the input parameters exceeds a threshold number of parameters that are capable of being included in the command, merging content of multiple input parameters into at least one output parameter if the number of input parameters exceeds the threshold number, wherein the content of the input parameters is included in a number of output parameters that does not exceed the threshold, and including the output parameters with the command.

The Office Action cites a hybrid index in the Wagstaff patent as teaching receiving a plurality of input parameters for the command. A hybrid index is not a set of input parameters for a command. Instead, a hybrid index is an index that contains multiple representations of an index value for each key. (Col. 3, lines 25-34) The multiple representations include a bitmap and an uncompressed list of row ids. Neither the hybrid index nor its content is input into any

command. For example, at Col. 9, lines 25-26, a create target index command is listed, and the hybrid index is not an input parameter of the command. Instead, it appears that the result of executing the command generates the hybrid index.

Applicants' claim 1 describes determining whether a number of the input parameters exceeds a threshold number of parameters that are capable of being included in the command. The Office Action cites thresholds for each of the multiple representations in the hybrid target index at Col. 10, lines 50-67, of the Wagstaff patent as teaching determining whether a number of the input parameters exceeds a threshold. Additionally, the Office Action cites a request to create a target index at Col. 9, lines 10-23, of the Wagstaff patent as teaching a number of parameters that are capable of being included in the command. The Wagstaff patent determines a selectivity based on the number of rows L (Col. 10, lines 18-19) and the current number of rows N (Col. 10, lines 22-23). Thresholds are stored for each of the multiple representations of an index value for a key. Then, based on where the selectivity falls with respect to the thresholds, the Wagstaff patent determines the representation to be used for a current key. On the other hand, the claimed threshold pertains to a threshold number of parameters that may be included in a command. The Wagstaff threshold is different from the claimed threshold. Moreover, using a threshold to determine a representation for a key is not equivalent to determining whether a number of input parameters exceed a threshold number of parameters that may be included in the command. Also, the request to create a target index at Col. 9, lines 10-23, does not receive a hybrid index as an input parameter, therefore, the hybrid index cannot teach or suggest the claimed plurality of input parameters for the command.

Applicants' claim 1 describes merging content of multiple input parameters into at least one output parameter if the number of input parameters exceeds the threshold number, wherein the content of the input parameters is included in a number of output parameters that does not exceed the threshold. The Office Action cites compressed list representation as merging content. A compressed list representation is a type of representation of an index value, and the use of the term compressed in the Wagstaff patent is not equivalent to Applicants' use of the term merging.

The Office Action cites that a calculation might indicate that the row list associated with the Ohio customers should be in compressed list representation at Col. 10, lines 38-50 of the Wagstaff patent as showing merging content of multiple input parameters into at least one output parameter. The Wagstaff patent is determining one representation out of multiple representations of an index value - the Wagstaff patent is not merging content of multiple input parameters into at least one output parameter. The Office Action cites a compressed list representation having a lower and upper threshold at Col. 10, lines 38-Col. 11, line 3, of the Wagstaff patent as teaching "if the number of input parameters exceeds a threshold." Since the compressed list representation is not an input parameter, merely having thresholds does not teach or suggest the claimed language. The Office Action cites that the compressed list representation is deemed proper when R remains between the thresholds at Col. 10, line 38-Col. 11, line 3, of the Wagstaff patent as teaching that the content of input parameters is included in a number of output parameters that does not exceed the threshold. The Wagstaff patent is determining whether to use the compressed list representation or a different representation based on thresholds, while Applicants' claim describes determining whether to merge content of input parameters based on a threshold for a number of parameters that may be included in a command.

Applicants claim 1 describes including the output parameters with the command. The Office Action cites processing each of the rows in the table on which the index is created after the hybrid target index has been defined at Col. 9, lines 47-50 of the Wagstaff patent as including the output parameters with the command. Processing rows is not equivalent to including the output parameters with the command. Also, the cited portion indicates that the hybrid index has been defined, but does not say that output parameters into which content of input parameters have been merged are included in a command.

Therefore, neither the Haye patent nor the Wagstaff patent, either alone or in combination, teach or suggest the subject matter of claim 1.

Independent claims 11 and 23 are not taught or suggested by the Haye patent or the Wagstaff patent, either alone or in combination, for at least the same reasons as were discussed with respect to claim 1.

Dependent claims 2-10, 12-22, and 24-32 incorporate the language of independent claims 1, 11, or 23, respectively, and add additional novel elements. Therefore, dependent claims 2-10, 12-22, and 24-32 are not taught or suggested by the Haye patent or the Wagstaff patent, either alone or in combination, for at least the same reasons as were discussed with respect to claims 1, 11, and 23.

Conclusion

For all the above reasons, Applicant submits that the pending claims 1-32 are patentable over the art of record. Applicants have not added any claims. Nonetheless, should any additional fees be required, please charge Deposit Account No. 09-0466.

The attorney of record invites the Examiner to contact her at (310) 553-7973 if the Examiner believes such contact would advance the prosecution of the case.

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